

A new species of *Habenaria* Willd. (Orchidaceae) from North Queensland

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Summary

Lavarack, Peter S. and Dockrill, Alick W. A new species of *Habenaria* Willd. (Orchidaceae) from North Queensland. *Austrobaileya* 5(2): 331–335. *Habenaria praecox* Lavarack & Dockrill is described and illustrated. Relationships of this species to other Australian species are discussed and a key to Queensland species of *Habenaria* and *Peristylus* is provided.

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Introduction

For a number of years the species *Habenaria ochroleuca* R.Br. was considered to occur in north Queensland. A.W. Dockrill (1969) illustrated material of a taxon in the genus *Habenaria* as *H. ochroleuca*. Research by D.L. Jones (pers. com.) in the Northern Territory, from where Brown collected material he originally described as *H. ochroleuca*, established that the material previously thought to belong to this taxon in north Queensland, is significantly different from that from the Northern Territory and probably represents an undescribed species. Comparisons with the type description of *H. ochroleuca* (Brown 1810), also suggested that the taxa are separate. A specimen was sent to M.A. Clements, while he was at Kew, and he agreed that the North Queensland taxon was distinct from *H. ochroleuca* (M.A. Clements pers. com.). In early 1997 one of the authors (P.S.L.) found flowering plants of this taxon near Cardwell in north Queensland. This fresh material allowed further comparisons to be made with illustrations of *H. ochroleuca* (Jones 1988), and these confirmed that the north Queensland material was distinct. Comparisons were made with descriptions and illustrations of *Habenaria* species from adjacent regions including New Guinea, Java, Sulawesi, The Solomon Islands, Vanuatu and New Caledonia and no identical taxon was discovered.

Habenaria praecox Lavarack et Dockrill, **sp. nov.** affinis *H. propinquiori* Rchb.f. sed tuberibus multum majoribus (35–50 non 7–15 mm longis) et floribus labelli lobis lateralibus latis et decurvis non tenuibus et sursum in semicirculo curvatis differt. **Typus:** Queensland. NORTH KENNEDY DISTRICT: about 12 km south of Cardwell. 18° 23' S, 146° 05' E, 6 February 1997, P.S. Lavarack PSL 4001 (holo: BRI; iso: BRI).

Tubers 2, obloid or ellipsoid, up to 50 × 25 mm. Leaves 2–4 basal, or sometimes one low on the inflorescence stem, more or less erect and sometimes sheathing at the proximal end, narrowly oblong to narrowly obovate, 50–100 × 4–6 mm, canaliculate, acuminate or acute. Inflorescence 20 to 50 cm tall, with axis 1–2 mm diameter; cauline bracts 2 to 6, subulate, 6–20 mm long. Rachis 3- to 35-flowered; flowers moderately dense or rather sparse and often irregularly arranged; bracts usually about half the length of the ovary; pedicels about 1 mm long. Flowers 9–10 mm across, white with the dorsal sepal often green; dorsal sepal and petals galeate; lateral sepals widely spreading; spur on the labellum curved downwards or directed straight backwards. Dorsal sepal cucullate-ovate, 3.5–4 × c. 2.5 mm, slightly constricted near the blunt apex. Lateral sepals subfalcate, c. 2 mm longer and 1 mm narrower than the dorsal sepal, constricted at the distal end. Petals broadly subfalcate, about as long as or slightly longer

than, and about the same width as the dorsal sepal, often with a small lobe on the posterior side near the base. Labellum cuneate or semi-circular at the proximal end and then deeply trilobate, about twice as long as the dorsal sepal; lateral lobes spreading and directed downwards and forwards, about as long as the mid-lobe, narrowly triangular to almost narrowly oblong, the ends slightly curved upwards, about the same length as the lateral sepals and usually about 1 mm broad; mid-lobe narrowly oblong, slightly tapered, obtuse or rounded at the apex, 3.5–4 × c.1 mm; spur broad at the orifice, constricted at the middle, dilating near the distal end, with the extreme distal end constricted, 9–3 mm long. Column auriculate, suberect, conical or subcylindrical c. 3 × 3 × 2 mm. Anther emarginate distally; thecal tubes widely separated at the proximal end, somewhat converging distally, about half as long as the stigmatophores and adnate to them; bursicles not in evidence on any specimens seen. Pollinia soft, granular and difficult to remove from anther cells; caudicles slender, tapered, reticulate, at about a 90° angle to the pollinia and about two thirds their length. Stigmatophores adnate only near the base to the labellum, grooved below. Ovaries twisted and curved to a varying extent and direction, 9–13 mm long (Fig. 1).

Additional specimen examined: Queensland. COOK DISTRICT: 5 km south of Bamaga, Dec 1976, P.S. Lavarack 1070 [AQ193390] (BRI).

Distribution and habitat: Specimens of this species from near Cardwell and from near Bamaga on Cape York Peninsula have been seen for this study. *H. praecox* (reported as *H. ochroleuca*) has also been reported from near Proserpine, Gordonvale, Julatten, Coen and the Gulf of Carpentaria (Dockrill 1969).

This species occurs in lowland woodlands dominated by tea trees (*Melaleuca viridiflora*) and also in lowland woodlands comprising bloodwoods (*Corymbia* spp) and *Eucalyptus* spp. It is confined to areas where the drainage is poor and the soil stays damp for long periods during the wet season. The species is most abundant in areas where the ground cover is sparse and less than 0.5 m tall. All areas where this species occurs are subject to a distinct dry season from June to December. Dry season fires, which occur about every five years, are a feature of this habitat.

Affinities: This species has been confused with *H. ochroleuca* R.Br. (eg Dockrill 1969 p 38,39), but is readily distinguished from that species as shown in the following table:

Table 1. Morphological comparison of *H. praecox* and *H. ochroleuca*

Distinguishing Characters	<i>H. praecox</i>	<i>H. ochroleuca</i>
Lateral lobes of labellum	directed downwards, about 1 mm broad	prominently upturned, about 3 mm wide
Labellum spur	about the same length as the mid-lobe of the labellum	about twice the length of the mid-lobe of the labellum
Leaves	2 to 4, basal	reduced to sheathing bracts along the stem

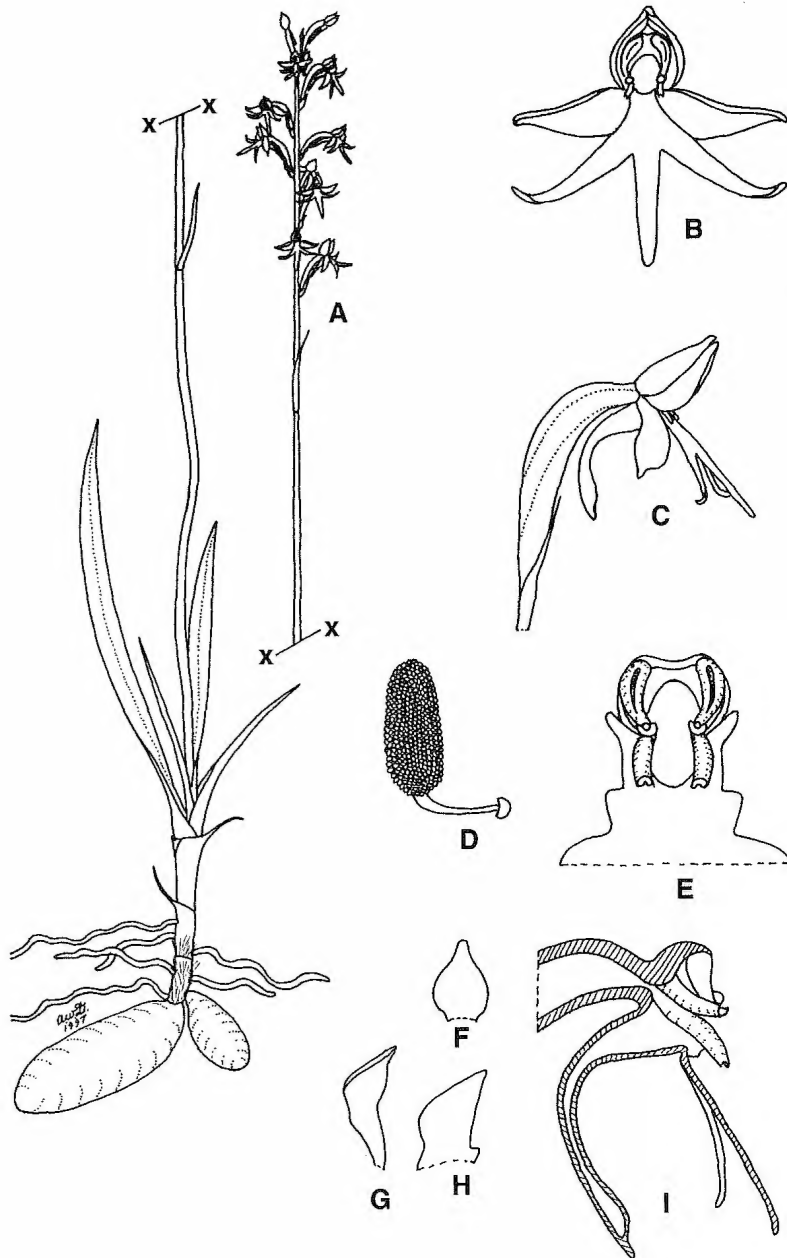


Fig. 1. *Habenaria praecox*: A. plant $\times 0.6$. B. flower from the front $\times 3.6$. C. flower from the side $\times 3.6$. D. pollinarium $\times 12$. E. column from the front $\times 6$. F. dorsal sepal $\times 3$. G. lateral sepal $\times 3$. H. petal (flattened out) $\times 3$. I. longitudinal section of flower $\times 6$. Del. A.W. Dockrill.

While *H. praecox* is similar to *H. ochroleuca* from the Northern Territory and Western Australia, it is more likely to be confused with *H. propinquier* Rchb.f. and *H. xanthantha* F.Muell., both of which occur in the same habitat in north Queensland. These three species have a similar appearance and can be confused when seen from a distance or when not in flower. However, the details of the labellum can be used to distinguish them. In *H. propinquier*, the lateral lobes of the labellum are filiform and curved upwards, while they are broader and trend downwards in *H. praecox*. Both *H. praecox* and *H. propinquier* have a well developed spur on the labellum, at least as long as the mid lobe of the labellum. In *H. xanthantha* the spur is either absent or, if present, is shorter than the mid-lobe of the labellum and the lateral lobes of the labellum are not distinct as they are in *H. praecox* and *H. propinquier*; often being reduced to very small bumps on the side of the mid-lobe.

The species illustrated in colour plate 28 on page 215 of Dockrill (1992) as *H. ochroleuca*, is *H. praecox*.

Phenology: *H. praecox* flowers in December and January, just as the wet season is commencing. It flowers before both *H. xanthantha* and *H. propinquier*, with little overlap of flowering time. There is some evidence that flowering is related to fire history and to early season rains in November and December. In some years, when conditions are unfavourable few, if any, plants flower.

Conservation status: *H. praecox* is not known to be conserved on any national parks, but probably occurs on Lumholtz National Park and Jardine River National Park. Coastal habitats near Cardwell, north Queensland, have been greatly reduced by clearing in recent times and this must have resulted in a reduction in

population numbers. The exact conservation status of this species is unclear and it may be more common than it appears, but at present it should be regarded as 3R (rare species with a range greater than 100 km in Australia, but occurring in small populations which are mainly restricted to highly specific habitats) according to the criteria of Thomas and McDonald (1989).

Etymology: The specific epithet *praecox* means “early” and refers to the comparatively early flowering of this species. This is the first of the four commonly-occurring species of *Habenaria* in the coastal lowlands of the Queensland’s wet tropics to flower each wet season.

Acknowledgments

Thanks are due to Len and Kate Lawler of Atherton for assistance on field trips and in many other ways. Rod Henderson prepared the Latin diagnosis. Both Dave Jones and Mark Clements provided the authors with advice and compared specimens on their behalf.

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Key to the species of *Habenaria* Willd. and *Peristylus* Blume occurring in Queensland

1. Leaves arising at, or close to, ground level 7
 Leaves not arising at ground level 2
2. Lowest leaves several cm above ground level, in the middle of the stem
 **P. tradescantifolius** (Rchb.f.) Kores
 Leaves scattered along the stem 3
3. Labellum spur shorter than the sepals **P. banfieldii** (F.M. Bailey) Lavarack
 Labellum spur longer than the sepals 4
4. Petals entire 5
 Petals bilobate 6
5. Petals unguiculate **H. divaricata** R.S.Rogers & C.T.White*
 Petals not unguiculate (leaves sometimes basal in small plants)
 **H. rumphii** (Brongn.) Lindl.*
6. Anterior lobe of petal slightly longer than or equal to posterior lobe
 **H. macraithii** Lavarack
 Anterior lobe of petal much shorter than posterior lobe **H. hymenophylla** Schltr.
7. Flowers horizontal, tubular in proximal half **P. candidus** J.J.Sm.
 Flowers erect and opening widely 8
8. Labellum spur less than 20 mm long, shorter than, equal to, or up to twice
 as long as the labellum lobes 9
 Labellum spur more than 20 mm long, at least three times as long as the
 labellum lobes 12
9. Lateral lobes of labellum filiform, curving strongly upwards; labellum spur
 almost twice as long as the mid lobe of the labellum **H. propinquior** Rchb.f.
 Lateral lobes of labellum broadly or narrowly triangular, horizontal or
 directed downwards oral most absent; labellum spur either almost absent,
 or shorter than, or equal to, the mid lobe of the labellum 10
10. Labellum spur always present and about as long as the mid lobe of the
 labellum; lateral labellum lobes well developed and about the same length
 as mid lobe **H. praecox** Lavarack & Dockrill
 Labellum spur variable in size, even within flowers on a single
 inflorescence, from absent to very short, or occasionally equal to the
 mid lobe of the labellum; lateral lobes of labellum absent, or uneven
 in size and shorter than the mid lobe 11
11. Labellum longer than 7 mm **H. harroldii** D.L.Jones
 Labellum shorter than 7 mm **H. xanthantha** F.Muell
12. Lateral lobes of labellum filiform; stigmatophores less than twice the
 length of the thecal tubes **H. triplonema** Schltr.
 Lateral lobes of labellum narrow linear, often asymmetrical; stigmatophores
 more than twice the length of the thecal tubes **H. elongata** R.Br.

* *H. divaricata* and *H. rumphii* are very similar in both plant habit and flower form. No specimen referable to *H. divaricata* has been collected since the type and it is extremely likely that the two species will be shown to be conspecific.